at Stanford University Medical School, January 10, 1927, with the following history:

Mr. H., age 48, baker.

Previous Entry, 1922—Diagnosis: acute bronchitis, chronic endocarditis (aortic and mitral), chronic myocarditis (compensated), hypertension, and obesity.

Present Illness—Complained of sore throat, pain along left side of neck for two weeks. Seen in the outpatient dispensary January 3, where an acute pharyngitis and mild tonsillitis accompanied by pain in left side of face and left ear and tenderness in left anterior cervical triangle were treated with local applications and hot gargles. No deep induration was noted externally or in the hypopharynx at that time. Temperature was 101. January 4 and 5, he felt better, but temperature was 102. January 7, he developed an acute generalized arthritis and was hospitalized on the medical service. Throat felt no worse, but pain and tenderness in neck were increasing; temperature, 102-4/10, and a dusky color of the pharyngeal wall was noted. Heart lesions were unchanged and well compensated for. Edema of the postpharyngeal wall, posterior pillars and uvula developed January 8.

Treatment—January 9, the surgical department thought there was a deep cervical abscess at the level of the thyroid cartilage, primarily on the left, and explored this region through an external incision, finding nothing but some edema of the deep tissues around the larynx and esophagus.

January 10, the patient had great dysphagia, respiratory stridor of laryngeal type, temperature 102. Examination by the nose and throat department revealed a marked edema of the posterior and lateral pharyngeal walls, increasing downward and obscuring the larynx except for the epiglottis, which was inflamed and tilted to the right, and the posterior surface of the arytenoids, which were somewhat edematous.

Direct laryngoscopy under local anesthesia showed the edema to be much greater on the left, including the left arytenoid, and greatest near the base of the epiglottis. The left pharyngoepiglottic fold was extremely swollen, fiery-red as compared to the pale edema elsewhere, tense and elastic rather than soggy, and this swelling was displacing the upper laryngeal structures to the right. An incision on the lateral pharyngeal wall about one centimeter above the base of the epiglottis opened an abscess at a depth of a few millimeters, and about an ounce of creamy yellow pus under great pressure was evacuated immediately into a suction tube. Cultures showed hemolytic streptococcus. It was hoped that the respiratory difficulty might soon subside, but two hours later the patient was becoming cyanotic and stuporous, and bedside tracheotomy was done with immediate relief.

Course—The next day, January 11, the arthritis was gone and a soft diet was being taken. Temperature fell to 101 rectal.

January 13, spots of bronchopneumonia appeared and fever and profuse bronchorrhea were present for several days, but pain and dysphagia were completely gone.

January 14, tracheotomy tube was removed.

January 20, temperature was normal and patient went home.

Tracheotomy wound healed slowly (secondary infection with *B. pyocyaneus* intervening), but completely by February 11, and patient returned to work.

COMMENT

Direct laryngoscopy at the first evidence of pharyngeal edema might have brought this serious illness to a satisfactory end without the external operation and before edema of the glottis necessitated tracheotomy, and the pneumonia might have been avoided. The myocardium maintained compensation during several hours of partial asphyxia, but had it failed the tracheotomy might have been too late. Direct laryngoscopy is indicated in acute or chronic processes affecting the hypopharyngeal region before external attack is attempted.

1904 Franklin Street.

TERATOMA OF MEDIASTINUM*

REMOVAL UNDER NITROUS OXID-OXYGEN ANESTHESIA

CASE REPORT

By MARY F. KAVANAGH, M. D.
San Francisco

THE following notes were taken from the history record of Mr. G. J., age 19, occupation a tractor driver, who was operated on by Dr. Wallace I. Terry, for removal of a teratoma of the mediastinum at the University of California Hospital.

Family History—The patient's parents are living and well. He has four sisters who are all perfectly healthy. Habits are negative. No history of accidents or of surgical operations. Has had an occasional cold.

Present History—Very sick-looking boy. Height, 5 feet 11 inches; weight, 155 pounds; temperature, 38.8; pulse, 112. For the past year he has had occasional attacks of pleuritic pain, mostly in the right side, occasionally in the left side. Cough began four weeks ago which keeps him awake at night. He raises considerable purulent sputum, but has no hemorrhage and no night sweats.

Physical Examination—Examination of eyes, nose, mouth, and neck negative. No lymph nodes felt anywhere. No cyanosis. No clubbing of fingers. Chest symmetrical and moves equally. No enlarged veins. No bulging. No pulsation. Apex beat cannot be felt. Fremitus increased in right upper lung. On percussion the whole mid-right chest anteriorly shows diminished resonance, which cannot be separated from the right border of the heart—a dullness which may be heart dullness. This heart dullness brings it to the anterior axillary line. Apex beat is not definitely made out. The heart sounds heard over this area are very faint. Sounds at base are louder than anywhere else. No murmurs. Pulse regular and of good quality. Blood pressure: systolic, 125; diastolic, 75. Reflexes normal. There is a slight amount of dullness at the base of the right lung posteriorly and there are a few squeaking râles at both bases.

The blood count showed: hemoglobin, 85 per cent; red blood count, 4,960,000; white blood count, 8650; polymorphonuclears, 75 per cent; small lymphocytes, 20 per cent; large lymphocytes, 4 per cent; transitionals, 1 per cent.

The blood Wassermann was negative.

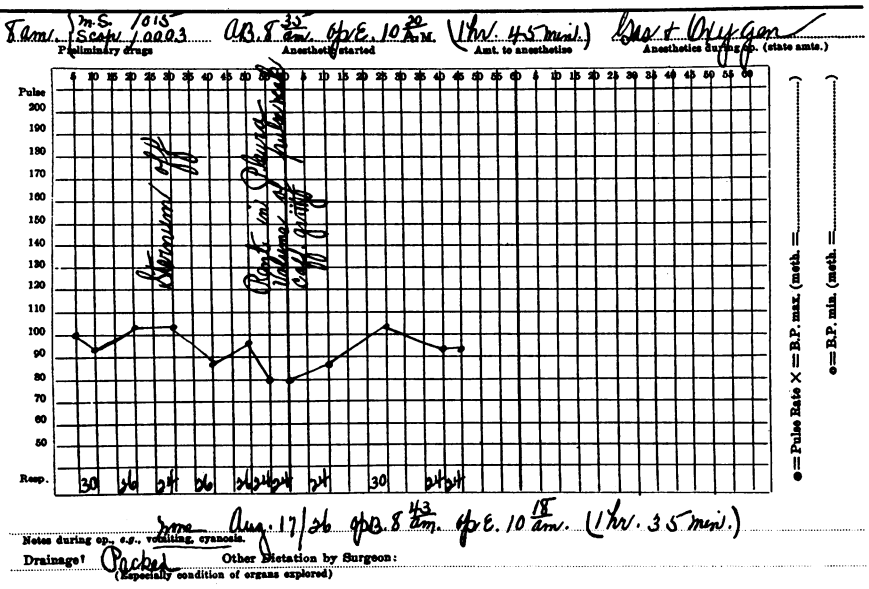
Urine had a trace of albumen.

August 12, 1926—Patient entered the hospital on the medical service with a diagnosis of purient pericarditis and dermoid cyst of the mediastinum having been made.

August 13, 1926—a pericardial tapping was done and 245 cc. of fluid was removed. The temperature dropped to normal after this tapping and an x-ray showed the cardiac shadow smaller than before the paracentesis, but there was no change in the shadow extending out into the lung field. The patient was transferred to the surgical service, and four days later the following operation was performed:

August 17, 1926—Operation: An incision was made from the level of second to fifth rib in the middle of the sternum. The right half of the sternum was resected, exposing a tumor involving the entire medias-

* Read before the Anesthesiology Section of the California Medical Association at its Fifty-Sixth Annual Session, April 25-28, 1927.



tinum. The mass was incised and a large quantity of fluid exuded. Character of the fluid, thick, cloudy, greasy, odorless, and containing particles of sebaceous material which resembled sulphur granules. After exploring the cyst cavity and evacuating the cavity the cyst was found to be a multiocular one. The dermoid and its pedicle were isolated on the posterior lateral wall of the cyst. This was removed and also as much of the cyst mass as possible. During this stage of the operation a small rent was made in the pleura near the lateral extension of the tumor, and a small amount of air was drawn into the pleura by negative pressure. This accident was followed by a more shallow respiration although there was no change in the respiratory rate, and there was also a drop in the pulse rate. Pulse remained regular, but the volume was quite weak. Caffein 3 grains was then given. No cyanosis was present at any time. A further extension of the cyst was found directly posteriorly between the right lung and the pericardium. Manipulation in this area caused the volume of the pulse to be most changeable. The remaining portion of the cyst cavity was lavaged with sterile water and the cyst cavity packed. Patient at the end of the operation was awake, talking, and in very good condition. Pulse was 92; respiration, 24.

Patient had a rather stormy convalescence. Complications and procedures which followed were:

(a) Postopterative hydropneumothorax.

(b) Draining of sternal sinuses.

August 27, 1926—Ten days after operation thoracentesis was done in the eighth interspace in the posterior axillary line and 40 cc. of fluid obtained.

August 31, 1926—Two weeks after operation patient was up. No evidence of respiratory embarrassment present. Temperature, 37-38; pulse, 100-120; respiration, 20-25.

September 20, 1926—Patient was discharged and instructed to return for a second operation.

November 16, 1926—It was interesting to note the difference in the picture which the patient presented today in comparison to that on his first operation. There had been a wonderful improvement in his general condition and he had gained twenty-one pounds in weight. He looked well and he was happy to know that he was ready for the second operation. Under nitrous oxid and oxygen anesthesia the tumor mass was explored and it was found to be well out on the chest; and by traction the base of the pedicle was exposed. A Peon hemostat was clamped across the base of the tumor cutting off the blood supply. By this method of traction the mass was finally excised at its base.

November 24, 1926—Eight days later the patient was discharged in very good condition.

I have reported this case because this was the first patient to whom I had given a nitrous oxid and oxygen anesthesia for removal of a tumor of the mediastinum. The Ohio monovalve gas machine was employed. By the usual inhalation method fifteen pounds pressure was used to anesthetize the patient and then raised to twenty-five pounds pressure just before the right sternum was reflected. Complete surgical anesthesia was maintained throughout the operation. There was no cyanosis at any time. The accompanying anesthetic record shows that the patient's condition while under the anesthetic was very good when the type of operation performed is taken into consideration.

1020 Union Street.

A "Use" for Criminals—Individuals who forfeit their rights to life by committing capital crimes should be compelled to enlist their physical faculties in the cause of science, Dr. W. D. Haines, Cincinnati, believes.

"A Cincinnati surgeon, Dr. W. D. Haines," the Cincinnati *Times-Star* explains in a current editorial, "suggests that criminals condemned to death or life imprisonment for capital crimes be turned over to hospitals and laboratories for purposes of scientific medical experimentation. In this way, he says, methods might be found for curing cancer and other diseases which are now incurable in their later stages and against which little progress is being made with the field of experimentation limited to rats and other small animals."

"The suggestion," the *Times-Star* believes, "is worthy of consideration. On first thought it may appear a little barbarous. Probably it will not be put into effect in our time, for we are a sentimental people and there would be a great sob outcry against it.

"In its effect on crime, the establishment of such a custom might have important results. Lax enforcement of the laws and too great activity by pardon boards cause many criminals to think that they can pursue their evil practices in comparative security. Let the idea get around that a man convicted of murder is going to be used as an experiment station for discovering the manners and customs of dreaded disease germs and there would probably be a sudden surge toward virtue among the criminal classes.

"It may well be argued that a man who has forfeited his claim to life through the murder of a fellow-being might be made of some use to society rather than merely to be sent uselessly to the electric chair. Three or four centuries from now Doctor Haines' suggestion may be the general practice in the United States. But then again America may have become quite civilized by that time so that murder will no longer be a general practice in the United States."—*Ohio State M. J.*